

Nuclear Facility Deactivation and Decommissioning (D&D), Remainder of Hanford (RL-0040)

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241-U-361 sampling complete



*L-626, 100B Export Water
Reliability Enhancements,
removal of pumps at 182-B
pump house*

Overview

This section addresses Project Baseline Summary (PBS) RL-0040, Nuclear Facility Deactivation and Decommissioning (D&D), Remainder of Hanford. There are three major components to this work scope:

- Central Plateau Deactivation & Decommissioning (R. E. Wilkinson),
- Waste Sites Remediation (B. H. Ford), and
- Reliability Projects (R. G. Slocum).

NOTE: Unless otherwise noted, all information contained herein is as of the end of September 2007.

Top FY 2007 Accomplishments

Deactivation & Decommissioning (D&D)

212-N Facility:

- Characterized, packaged, and shipped 15 crates to support downgrade to less than hazard category 3 facility.

200 North Sites

- Completed remediation closure of four waste sites in the 200-CW-3, 200 North Cooling Water Group waste sites.

200-UW-1 U Plant Zone Waste Site Remediation

- Completed video record and collection of dose rates inside the 241-U-361 Tank.
- Obtained samples from the 241-U-361 Tank and delivered to the lab.

221-U Canyon Facility

- Completed U Zone Accelerated Canyon Closure initiatives.
 - Issued Canyon Facility Waste Acceptance Study.
 - Issued U Plant Accelerated Closure engineering studies.
 - Submitted a safety basis document to allow disposition of the contents of U Plant Cell 30 Tank.

D&D

- Completed D&D of 11 industrial buildings.
- Completed the Integrated Soil, Groundwater and D&D Project Execution Plan.

Waste Site Remediation

TPA Milestones

- M-13-28 – Submit Remedial investigation/feasibility study (RI/FS) for 200-SW-1/2 operable units (OUs) by 9/30/07 (**completed 9/28/07**).
- M-13-50 – Submit 200 Area OU RI/FS for Supplemental Characterization by 3/31/07 (**completed 3/23/07**).
- M-13-51 – Submit RI/FS Work Plan for 200-TW-1/2 and PW-5 OUs for BC Crib Treatability Test by 12/31/06 (**completed 12/22/06**).
- M-15-45B – Submit FS/PP for 200-PW-1/3/6 OUs by 9/30/07 (**completed 9/27/07**).
- M-91-40L – Submit Quarterly Burial Ground Vent and Substrate Sampling and Analysis (**completed quarterly as scheduled**).

RI/FS and Post-ROD Work

Field Work Preparation

- Completed Data Quality Objective Sampling and Analysis Plan (DQO/SAP) and Remedial Investigation (RI) work plan for supplemental characterization.
- Completed DQO/SAP for BC Cribs excavation treatability test.
- Completed DQO/SAP for correlation of BC Cribs HRR data.
- Submitted RI/FS Work Plan for the 200-IS-1 and 200-ST-1 OUs.

Top FY 2007 Accomplishments (continued)

- Submitted RI/FS Work Plan for the 200-SW-1 and 200-SW-2 OUs.
- Submitted an addendum to the 200-TW-1/2 PW-5 OU group RI/FS Work Plan for a treatability test at the BC Cribs and Trenches.
- Completed the DQO/SAP for Model Group 5 (Ponds) Supplemental Characterization.

Field Work

- Started characterization of the BC Cribs to support excavation treatability test.
- Completed 200-MW-1 field investigation (A4 replacement borehole and sampling; A2 borehole and A21 push).
- Completed field investigation for Ecological Risk Assessment.
- Completed characterization (geoprobe and analytical sampling) for 200-UR-1 Zones A & B.

Decision Documents

- Submitted the FS/PP for 200-PW-1/3/6 OU.
- Submitted the FS/PP for 200-CS-1, Draft B.

Reliability Projects:

- Completed near term repairs on four telecommunication repeater buildings on December 31, 2006 (L-598, *Near Term Repairs – Repeater Facilities*).
- Completed chip sealing 10 miles of roadway on Route 4S between Wye Barricade and Route 11A on July 27, 2007 (L-515, *Chip Seal from Route 4S between Wye Barricade and Route 11A*).
- Completed repair and replacement of roof membranes for MO406, 609, 609G, and 3709A Buildings in August 2007 (L-396, *Roof Rehabilitation, Phase I*).
- Completed mortar lining of 12-inch sanitary water line that furnishes water to 200 East Tank Farm facilities and the Waste Treatment Plant on September 28, 2007 (L-429, *12-Inch Water Line Mortar Lining Along 4th Street from Baltimore to Canton*).
- Initiated modifications to 181B and 182B water facilities to minimize disruption and enhance reliability of water on the export water system (L-626, *100B Export Water System Reliability Enhancements*).
- Initiated 2005 Energy Policy Act compliance.
- Initiated implementation of DOE Order 430.1B, *Real Estate Property Management*.

Notable September Accomplishments

Central Plateau D&D

200-UW-1 U Plant Zone Waste Site Remediation

- Transmitted Justification of the STOMP model (Volume I) and the Remove, Treat, and Disposal (RTD) Technical Basis document (Volume II) to RL on September 28, 2007.
- Completed 241-U-361 Sampling Tank PI September 29, 2007.

221-U Canyon Facility

- Finalized the Remedial Design/Remedial Action Work Plan (RD/RAWP) Draft B and transmitted to RL for regulator approval.
- Conducted U Canyon disposition initiative lessons learned workshop October 9, 2007.

Waste Site Remediation

- Submitted the 200-CS-1 Feasibility Study/Proposed Plan Draft B (TPA).
- Submitted the 200-PW-1/3/6 Feasibility Study/Proposed Plan Draft A (TPA).
- Submitted the 200-SW-1/2 Remedial Investigation Work Plan (TPA).
- Submitted the Draft Hanford Central Plateau Cleanup Configuration Control Specification (PI).
- Continued the 200-BC-1 Phase I drilling, logging, and sampling; four of eight sample holes completed through October 9; 2007, 38 holes drilled and logged.

Notable September Accomplishments (continued)

Reliability Projects:

- Submitted to RL cost estimate to bring 4732A Building (storage building for materials collected under the cultural, historic, and preservation laws) into compliance with Federal Regulation 36 CFR 79.
- Completed mitigation plan status forms for ten non-compliant reliability standards. RL transmitted forms to Western Electric Coordinating Council.
- Completed DOE Order 430.1B, Real Property Asset Management, implementation activities:
 - Issued the Request for Proposal for preparation of the Hanford Ten-Year Site Plan.
 - Completed trailer inspections, data analysis, and input of trailer field walk down information into the Facility Information Management System database.
 - Submitted a draft National Environmental Policy Act (NEPA) Five-Year Supplemental Analysis for the Hanford Comprehensive Land Use Plan to RL.
- Continued progress on current year reliability projects:
 - Completed construction on L-429, *12-Inch Water Line Mortar Lining Along 4th Street from Baltimore to Canton Street*, on September 28, 2007.
 - Completed L-626, *100B Export Water System Reliability Enhancements*, 181-B water line and sprinkler installations on September 28, 2007.

FY 2007 Funds vs. Actuals (\$M)

	September 2007 Actual Funding	FY 2007 Actual Costs	Delta
RL-0040 Nuclear Facility D&D, Remainder of Hanford	\$ 75.1	\$ 62.9	\$ 12.1

Schedule/Cost Performance (\$M)

Nuclear Facility D&D, Remainder of Hanford	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion (FY07/ CTD)
Current Period (Month)	\$8.1	\$7.0	\$7.4	-\$1.1	-13.2%	-\$0.4	-5.3%	\$64.6
Cumulative-to-Date (FY 2004-Present)	\$255.6	\$250.3	\$248.1	-\$5.3	-2.1%	\$2.2	0.9%	\$326.3

Numbers are rounded to the nearest \$0.1M.

CTD Schedule Performance (-\$5.3M/-2.1%):

The negative schedule variance (SV) for the Central Plateau D&D (CP D&D) Project (-\$1.0M) is due to:

- Delays in 200-UW-1 U Zone Waste Site Remediation on the phase II U-361 Tank sampling and resulting from prior sampling truck equipment failure (-\$0.9M). This variance will self correct. Also due to delays in vadose zone characterization due to critical resources working on remedial action goals which is considered a higher priority.

Schedule/Cost Performance (\$M) (continued)

The unfavorable SV in Waste Site Remediation (-\$4.4M) is due to the following:

- Delays in field work tied to CW-1 characterization due to lack of Washington State Department of Ecology (Ecology) approval of the sampling analysis plan (SAP) (-\$2.2M). This work scope will be replanned for FY 2008.
- Delays in drilling of the 200-MW-1 A-2 borehole and subsequent sample analysis due to delayed regulator approval of the SAP, and slow drilling progress through high-rad zones (\$-0.5M); recoverable in FY 2008; no impact to milestone completion date.
- Delays in 200-BC-1 in starting Electrical Resistivity Characterization (ERC) validation field work due to additional time needed to implement the "Expert Panel" recommendations on the DQO and SAP and work scope added through the DQO and SAP that requires a Baseline Change Request (BCR) for the additional sampling (-\$0.4M); BCR in process to re-plan scope and schedule into FY 2008.
- Other miscellaneous delays (-\$1.3M).

The SV for Reliability Projects is within established thresholds.

CTD Cost Performance (+\$2.2M/+0.9%):

The favorable cost variance (CV) for CP D&D (+\$2.5M) is primarily due to the following factors:

- Prior year cost overruns in 200-UW-1 U Zone Waste Site Remediation (-\$4.6M) resulting from:
 - Additional direct push sampling during field investigation to determine contamination levels.
 - Greater than planned effort to resolve Feasibility Study/Planning Package (FS/PP) comments and Remedial Design SAP.
 - Delays in barrier construction without reductions in staffing levels.
 - Lateral spread of contamination at 200-W-42, resulting in more waste containers being shipped to ERDF than planned.
- Higher than planned sampling costs for 200 North Remove, Treat and Disposal (RTD) Waste Sites.
- Prior year efficiencies in staff resulting from not replacing budgeted staff and loaned labor to higher priority projects within D&D. Also due to lower than planned corrective maintenance in prior years for 209E and B Plant (+\$2.9M).
- Prior and current year variance distributions (passbacks) in Project Mgmt & Support (\$4.2M).

CV for Waste Site Remediation (-\$1.1M) is due mainly to the following:

- 200-PW-2/4 – Prior year unplanned costs associated with the A-10 borehole contamination (sample, equipment, shipping costs); Prior year unplanned data compilation and large number of regulator comments on the RI Report (-\$1.1M).
- 200-PW-1/3/6 – Prior year costs associated with the Z-9 vertical borehole due to unanticipated high contamination levels and the discovery of carbon tetrachloride in the drill cuttings (-\$2.4M).
- 200-LW-1 – Prior year costs associated with unexpected costs associated with drilling the S-20, T-28, and Z-7 boreholes; additional costs associated with expedited analytical processing necessary to support FS schedule (-\$1.6M).
- Offset by favorable variances and passback distributions (+\$4.0M).

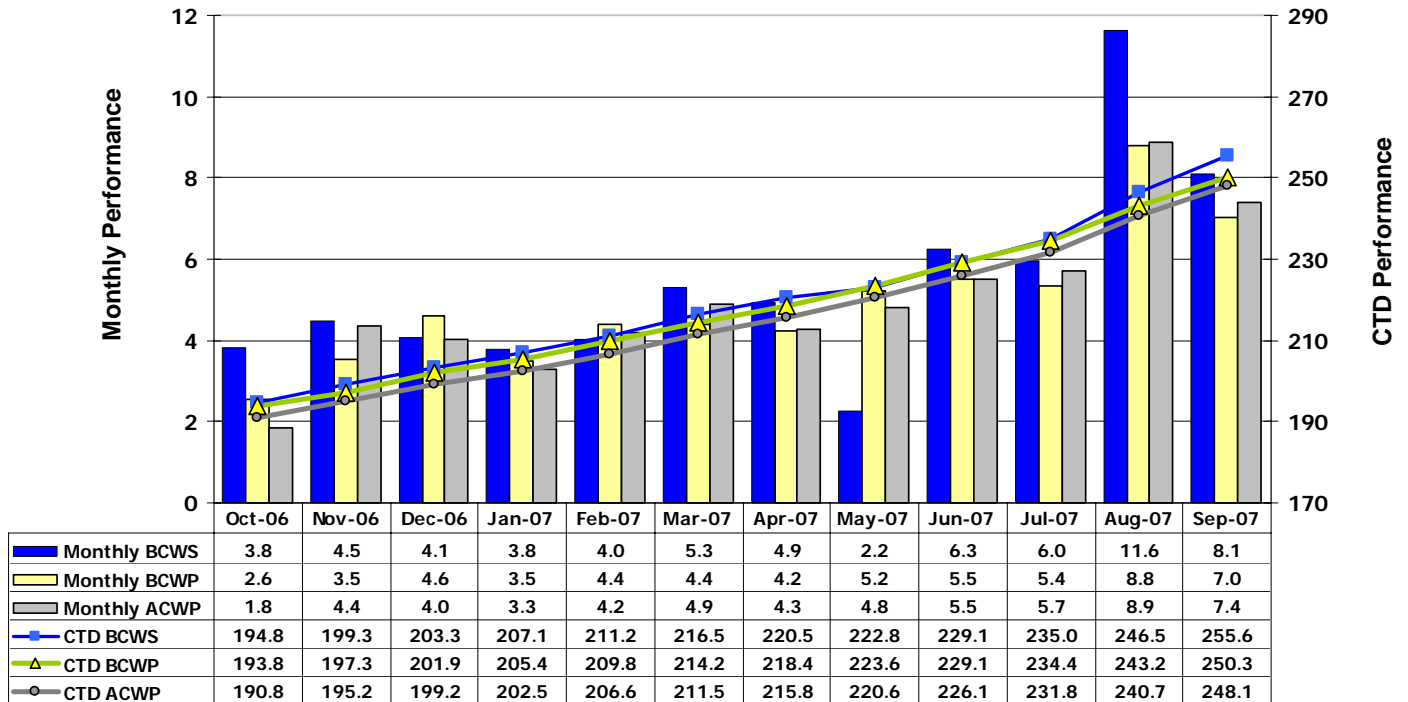
The favorable CV for Reliability Projects (\$0.5M) is primarily due to the following factors:

- Increase in steel prices for prior-year facility and water projects (-\$3.0M).
- Prior year telecommunication projects technology delays (-\$0.5M).
- Offset by underruns in Project L-325, *A-8 Substation*, (+\$1.5M), capital equipment procurements (+\$0.9M), road refurbishments (+\$0.7M), and favorable bids for current year projects L-429, *12-Inch Water Line Mortar Lining Along 4th Street from Baltimore to Canton*, and L-615, *273E Renovations* (+\$0.7M), and other miscellaneous (+\$0.2M).

The favorable CV for Closure Services (+\$0.4M) is within established threshold.

Schedule/Cost Performance (\$M) (continued)

Performance Analysis
CTD and Monthly (\$M)



Milestone Achievement

MSN	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status / Comments
M-015-45B CPDD-07-006	Submit Draft A Feasibility Study and Proposed Plan for the 200-PW-1/3/6 Operable Unit Group.	HQ	9/30/07	9/28/07		Completed ahead of schedule
CPDD-07-007	Central Plateau Cleanup and Configuration Control Specification document	RL	9/30/07	9/28/07		Completed ahead of schedule
M-13-28 CPDD-07-013	Submit a revised RI/FS Work Plan for the 200-SW-1 and 200-SW-2 OUs	RL	9/30/07	9/28/07		Completed ahead of schedule
CPDD-07-004	212-N nuclear facility hazard reduction and downgrade completed	RL	11/30/07	10/25/07		Completed ahead of schedule
M-091-40L-016	M-91-40L.4.D Quarterly Burial Ground vent/substrate sampling results (1st Qtr 2008)	HQ	11/30/07			On schedule
CPDD-07-008	Complete Construction of Project L-626, 100B-A Water System Enhancement	RL	12/31/07		12/14/07	Forecast ahead of schedule
M-091-40L-017	M-91-40L.5.A Quarterly Burial Ground vent/substrate sampling results (2nd Qtr 2008)	HQ	2/29/08			
CPDD-07-0010	Complete phase one of the BC Cribs and Trenches Treatability Test Plan	RL	3/30/08		3/30/08	On schedule (new completion date RL Letter 0702631)
CPDD-08-001	241-U-361 Settling Tank Characterization and Sampling completed	RL	3/31/08			
M-091-40L-018	M-91-40L.5.B Quarterly Burial Ground vent/substrate sampling results (3rd Qtr 2008)	HQ	5/30/08			
CPDD-08-004	Complete phase 2a of the BC Cribs and Trenches Treatability Test Plan	RL	7/31/08			
M-091-40L-019	M-91-40L.5.C Quarterly Burial Ground vent/substrate sampling results (4th Qtr 2008)	HQ	8/29/08			
CPDD-08-003	Complete characterization of potential contamination plume in the BC Cribs and Trenches	RL	8/30/08			
CPDD-08-006	Complete 231Z nuclear facility hazard reduction	RL	9/30/08			
CPDD-08-007	Complete 224T nuclear facility hazard reduction	RL	9/30/08			